



Microcontrollers Course

Sheet 7

Answer the following questions:

- (1) Write an 8051 C-program to convert EDH to decimal and display the digits on P1, P2, and P3.
- (2) Assume that XTAL=16 MHz. Find the TH1, TL1 value to generate a time delay of 5 ms. Timer 1 is programmed in mode 1.
- (3) Assume that XTAL=11.0592 MHz, program Timer 0 to generate a time delay of 2.5 ms.
- (4) Assume that XTAL=11.0592 MHz, program Timer 1 to generate a time delay of 2 ms.
- (5) Assume that XTAL=11.0592 MHz, program Timer 0 to generate a time delay of 2.5 ms.
- (6) Assume that XTAL=20 MHz, program Timer 1 to generate a time delay of 100 ms.
- (7) Assuming that XTAL= 11.0592 MHz, and we are generating a square wave on pin P1.2. Find the lowest square wave frequency that we generate using mode1.
- (8) Assuming that XTAL= 11.0592 MHz, and we are generating a square wave on pin P1.2. Find the highest square wave frequency that we generate using mode1.
- (9) Assuming that XTAL= 16 MHz, and we are generating a square wave on pin P2.2. Find the lowest square wave frequency that we generate using mode1.
- (10) Assuming that XTAL= 16 MHz, and we are generating a square wave on pin P2.2. Find the highest square wave frequency that we generate using mode1.
- (11) In mode 2 assuming that TH1=F1H, indicate which states timer 2 goes through until TF1 is raised. How many states is that?
- (12) Program Timer 1 to generate a square wave of 1 kHz. Assume that XTAL= 11.0592 MHz.
- (13) Program Timer 0 to generate a square wave of 3 kHz. Assume that XTAL= 11.0592 MHz.